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## (U) History Today - 25 July 2011

FROM: Center for Cryptologic History | Run Date: 07/25/2011

Ki27 (U) A number of diverse intelligence sources came together in 1944 to provide a solid answer to questions the U.S. military had been asking since the prewar period. ULTRA, the product of cryptanalysis of high-grade Japanese systems, stood at the center of the analytic effort.

(U) Were the Japanese manufacturing aircraft in Manchuria, and, if so, what types and how many?

(U) The Japanese had occupied Manchuria since the early 1930s. Named Manchukuo, and nominally an independent nation within the Japanese empire, the country actually was a Japanese puppet state. The Japanese extracted raw materials there for its own industry in the home islands and also had established a heavy industrial plant within Manchukuo for civilian trade with China or supply of Japanese forces on the mainland. Did that industrial presence include aircraft manufacturing?

(U) Prewar U.S. military intelligence had seen a reference to a "Manchuria Aircraft Company," but had no details of any kind about its location or its activities. Examination of captured or downed Japanese aircraft during the war failed to turn up any nameplates that indicated Manchurian origin.

(U) In April 1944 a number of ULTRA messages contained references to a "Manchuria Air Depot" in the city of Mukden (today's Shenyang). The depot was deploying a "Type 2 Single Engine Advanced Trainer (SEAT)" to Japanese forces in China, Taiwan, the Philippines, and Malaya. Since Mukden was not on the usual air route from Japan to these delivery points, the messages indicated the strong possibility that the aircraft were manufactured in the city.

(U) Some messages used an acronym, "Man Hi," which could be expanded in Japanese to read "Manshu Hikoki," i.e., "Manchuria Aircraft." At least one message referred to Man Hi producing Type 2 trainers.

(U) Analysts next looked at ULTRA messages regarding shipments from Japan to Manchuria. They determined that shipments included propellers, landing gear, and a few other aircraft components, but no aircraft engines. The analysts concluded it was probable the engines were manufactured in Manchuria.

(U) Further analysis of the traffic indicated that in May the Manchuria Air Depot had promised delivery of 105 planes to its principal customers. Combined with messages requesting components, this information suggested that the Depot was turning out approximately 150 aircraft per month.

(U) In a search of documents, an MI analyst found a translation of a letter from the (pre-war) Mitsubishi Corporation in New York that referred to both the Manchuria Aircraft Company and the Air Depot. The letter made clear that these were one and the same.

(U) The document search revealed a Mukden street address for the company; however it was in Japanese, not Chinese. After considerable work, the Chinese address was found in an industrial yearbook, and the company could be pinpointed on a map of Mukden.

(U) A document captured in Hollandia turned out to be instructions to an inspector who was scheduled to visit the Depot. This document contained a drawing of the Depot and surrounding buildings

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(U) In mid-June, the U.S. Army Air Force conducted photoreconnaissance of Mukden. The resultant photos showed buildings suitable for aircraft manufacture and an adjacent airfield. However, of about 125 small planes nearby, only 40 were seen with engines, and the main building did not have the ventilation required for construction/testing of motors; this led to the conclusion that the engines were manufactured elsewhere.

(U) Additional analysis of the photographs found another building, some miles away, that corresponded to the shape of the one in the Hollandia drawings. Although the Manchuria Aircraft Company and the Air Depot were one entity, it had two locations in Mukden.

(U) Further details emerged about the SEAT aircraft itself and about Japanese aircraft manufacturing. Also, based on clear identification of the SEAT from the air, image analysts could identify air training bases in territory occupied by the Japanese.

(U) Colonel Alfred McCormack, who was responsible for much of the organization and operational methodology of Army COMINT and military intelligence, called this "detective work," and argued that it was erroneous to think in terms of separate kinds of intelligence, ULTRA and non-ULTRA. He also remarked "in many cases of the hardest work no definite results are produced, at least for a long time; but when results appear they are very rewarding."

(U) The aircraft was a variant of a design from the Nakajima Company, and designated the Ki-27 (pictured). Later in the war, Japanese units in Manchuria used this aircraft in a ground attack role and for kamikaze attacks on Allied forces, making the complex analytic chain even more valuable in determining the strength of the enemy.

(U) Want to discuss this item with interested -- and interesting -- folks? Visit the Center for Cryptologic History's blog, "[History Rocks](#)." (go history rocks)

(U) [Larger view of photo](#)

(U) Have a question or comment on "History Today"? Contact us at DL cch or cch@nsa.

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